

This listing of claims is for reference purposes only. No amendments have been made herein.

LISTING OF CLAIMS

1. – 59. (Cancelled)

60. (Previously Presented) A method of forming a gassed emulsion explosive composition comprising:

(a) forming a gasser solution comprising a solution of an inorganic nitrite, an ammonium species and optionally an accelerator;

(b) adding the gasser solution to an emulsion explosive composition having a discontinuous aqueous phase comprising inorganic oxygen releasing salts, a continuous water immiscible organic phase and a poly[alk(en)yl] succinic anhydride based emulsifier such that droplets of gasser composition are distributed throughout the emulsion explosive composition; and

(c) allowing the inorganic nitrite and the ammonium species of the gasser solution to react and form gas which is distributed as bubbles throughout the emulsion to form the gassed emulsion explosive composition;

wherein the gasser solution is formed during or immediately before addition of the gasser solution to the emulsion explosive composition by mixing the inorganic nitrite, ammonium species and optionally the accelerator, and wherein the reaction between the inorganic nitrite and the ammonium species occurs within droplets of the gasser solution such that there is substantially no chemical attack on the emulsifier.

61. (Previously Presented) A method according to claim 60, wherein the emulsifier is a polyisobutylene succinic anhydride based emulsifier.

62. (Previously Presented) A method according to claim 60, wherein the gasser solution has a pH between pH 5 and pH 9.

63. (Previously Presented) A method according to claim 62, wherein the gasser solution has a pH between pH 6 and pH 8.

64. (Previously Presented) A method according to claim 60, wherein in forming the gasser solution, the ratio of inorganic nitrite to ammonium species is between 10:1 and 1:10.

65. (Previously Presented) A method according to claim 60, wherein in forming the gasser solution, the molar proportion of ammonium species is up to 10% greater than the molar proportion of inorganic nitrite.

66. (Previously Presented) A method according to claim 60, wherein in forming the gasser solution, the ammonium species and inorganic nitrite are present in equimolar quantities.

67. (Previously Presented) A method according to claim 60, wherein in forming the gasser solution, the ammonium species and inorganic nitrite are present in equimolar quantities and the gasser solution pH is between pH 5 and pH 9.

68. (Previously Presented) A method according to claim 60, wherein the ammonium species is selected from the group consisting of ammonium chloride, ammonium nitrate, ammonium chlorate, ammonium perchlorate and combinations thereof.

69. (Previously Presented) A method according to claim 60, wherein the ammonium species is formed in situ in the gasser composition.

70. (Previously Presented) A method according to claim 60, wherein the ammonium species comprises up to 25 wt.% of the gasser solution.

71. (Previously Presented) A method according to claim 60, wherein the inorganic nitrite is selected from the group consisting of alkaline earth nitrites, alkali metal nitrites and combinations thereof.

72. (Previously Presented) A method according to claim 60, wherein the inorganic nitrite comprises up to 25 wt.% of the gasser solution.

73. (Previously Presented) A method according to claim 60, wherein the gasser solution comprises an accelerator selected from the group consisting of thiourea, thiocyanate, iodide, cyanate, acetate and combinations thereof.

74. (Previously Presented) A method according to claim 60, wherein the accelerator comprises up to 25 wt.% of the gasser solution.

75. (Previously Presented) A method according to claim 60, wherein the gassed emulsion explosive composition has a density of less than 1.0 g/cc.

76. (Previously Presented) A method according to claim 75, wherein the gassed emulsion explosive composition has a density of less than 0.8 g/cc.

77. (Previously Presented) A method according to claim 60, which additionally comprises adding to the emulsion explosive composition a closed cell void material selected from the group consisting of glass microballoons, plastic microballoons and mixtures thereof.

78. (Previously Presented) A method according to claim 60, wherein the emulsifier comprises a primary amine, secondary amine, amide, carboxylic acid, ester or anhydride group.